CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of :	)	Docket 99-CEO-VOL-I
Staff Draft California Energy	)	NOTICE OF COMMITTEE
Outlook Report and	)	WORKSHOP
Staff Proposed Outline for	)	
2002-2012 Electricity	)	
Outlook Report	)	

The California Energy Commission's Electricity and Natural Gas Committee will hold a workshop on the ***California Energy Outlook: Electricity and Natural Gas Trends Report (Staff Draft Report)***, and on the ***Staff Proposed Outline: 2002-2012 Electricity Outlook Report***. At the workshop, the Committee will take comments on the ***Staff Draft Report*** and the staff's ***Proposed Outline***.

FRIDAY, SEPTEMBER 21, 2001
9 a.m.
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Hearing Room A
Sacramento, California
(Wheelchair Accessible)

See Attachment A for the "Executive Summary" of the ***Staff Draft Report*** and Attachment B for the tentative agenda for the Committee Workshop.

Background

Staff Draft Report*:*
The ***California Energy Outlook: Electricity and Natural Gas Trends Report***, responds to requirements of Section 25553 of the Public Resources Code. The Legislature enacted these requirements in Assembly Bill 970 (Ducheny), Chapter 329, Statutes of 2000, which Governor Davis signed into law on September 6, 2000. Among other provisions, Section 25553 requires the Energy Commission to provide accurate information and recommendations to the Governor, the Legislature, and the public regarding California's electricity supply, demand, and conservation trends.

The Committee will conduct a workshop to discuss and take comments on the ***Staff Draft Report***, which can be found on the Energy Commission website at: [http://www.energy.ca.gov/Energy Outlook/Documents]. *PLEASE NOTE: This* ***Staff Draft Report*** *replaces the report that the Commission made available to the public and posted on the web on August 24, 2001*.

The Committee will consider all comments and propose a Committee report for adoption by the Energy Commission.

Staff Proposed Outline:
To address the Commission's ongoing analytic and policy-development responsibilities, the staff has begun to conduct an electricity-systems study. The study will explore generation and demand-related decisions that California policy makers are likely to face in the next two years, and the potential intended and unintended consequences of such decisions over the rest of the decade.

The study will examine the entire West, but it will focus on trends within, and policy choices available to, California. The Commission will make the results of this study available in time to meet its Public Utilities Code Section 3369(a) obligation to coordinate with the California Consumer Power and Conservation Financing Authority's development of an investment plan.

At the workshop, the Committee encourages comment on the proposed scope and content of this study, as represented in the staff's ***Proposed Outline***. Depending on the comments received, the Committee may direct the staff to revise the scope and nature of the ***2002-2012 Electricity Outlook Report***.

Written Comments

The Committee encourages workshop participants and other members of the public to submit written comments on both the ***Staff Draft Report*** and ***Proposed Outline***. Those submitting written comments must submit 12 paper copies to the Energy Commission's Docket Unit; however, those who file by electronic mail at [docket@energy.state.ca.us] need only submit one paper copy. Please send or deliver materials to the following address:

CALIFORNIA ENERGY COMMISSION
Dockets Office
Attn: Docket 00-CEO-VOL-I
1516 9th St., MS-4
Sacramento, CA 95814-5512

In addition, commenters should make 12 copies available at the beginning of the workshop as handouts. All written materials relating to this workshop will be filed with the Dockets Unit and will become part of the public record in this proceeding.

Assistance

The Energy Commission's Public Adviser provides assistance to the public regarding Energy Commission procedures and participation in Energy Commission activities. Anyone wishing to obtain information on how to participate in this workshop may reach the Public Adviser's Office by phone at (916) 654-4489 or toll free at (800) 822-6228, or by e-mail at [pao@energy.state.ca.us]. If you have a disability and require reasonable accommodations to participate in this workshop, please contact Priscilla Ross at (916) 653-6631.

Anyone who has technical questions regarding the subject matter of this notice may contact Al Alvarado regarding the ***Staff Draft Report*** at (916) 654-4749, or Ross Miller regarding the staff's ***Proposed Outline*** or the ***2002-2012 Electricity Outlook Report*** at (916) 654-4892.

News media should direct inquiries to Assistant Director Claudia Chandler at (916) 654-4989. Anyone may obtain Energy Commission publications by calling the Publications Unit at (916) 654-5200, or by submitting a written request to the Publications Unit at 1516 Ninth Street, MS-13, Sacramento, CA 95814. Publications are also available on the Energy Commission's website at [www.energy.ca.gov].

Date: September 7, 2001

STATE OF CALIFORNIA ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

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MICHAL C. MOORE
Commissioner and Associate Member
Electricity & Natural Gas Committee

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ARTHUR H. ROSENFELD
Commissioner and Presiding Member
Electricity & Natural Gas Committee

ATTACHMENT A

DRAFT CALIFORNIA ENERGY OUTLOOK: ELECTRICTY AND NATURAL GAS TRENDS REPORT
Executive Summary

Attachment A includes the Executive Summary of the *Draft California Energy Outlook: Electricity and Natural Gas Trends Report*. The *Draft Report* can be found on the Energy Commission Website at:

http://www.energy.ca.gov/Energy Outlook/Documents

The Executive Summary and *Draft Report* contains updates to a number of tables and charts, with minor text edits to reflect current information. The *Draft Report* replaces the earlier version of the report that was posted on the Energy Commission Website on August 24, 2001.

Executive Summary

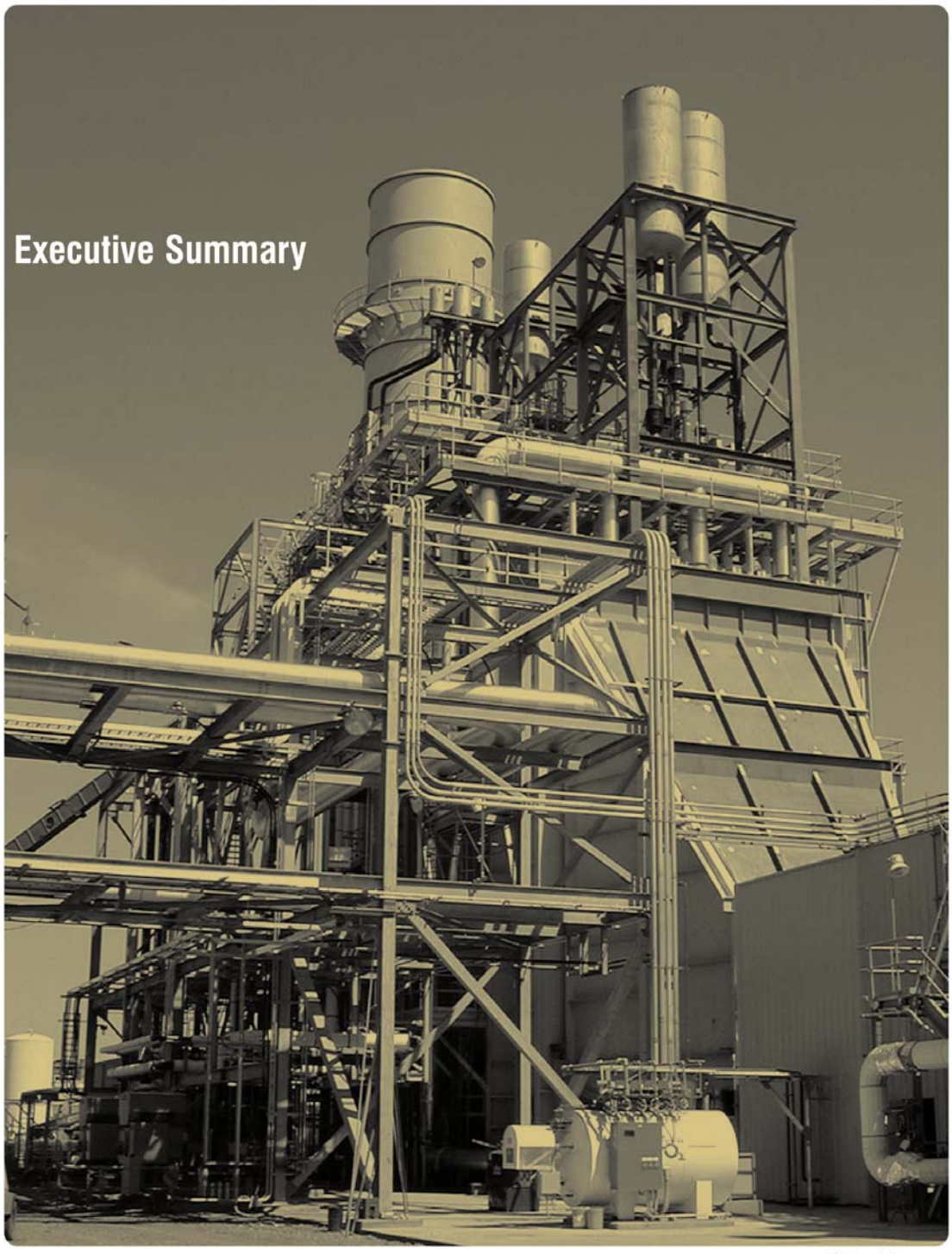

Photo: Laura Frank

EXECUTIVE SUMMARY

The *California Energy Outlook: Electricity and Natural Gas Trends Report* responds to the requirements of Section 25553 of the Public Resources Code. These requirements were enacted by Assembly Bill (AB) 970 (Ducheny) Chapter 329, Statutes of 2000, and signed into law by Governor Davis. Among other provisions, AB 970 requires the Energy Commission to provide the Governor, the Legislature and the public with accurate information on California's electricity supply, demand and conservation trends.

The report presents the energy supply and demand trends of the past decade to provide perspective on current events, along with an overview of expected developments for 2001 and a long-term demand outlook through 2010. The energy trends cover both electricity and natural gas developments. Electricity generation developments have important implications to the natural gas market and fuel delivery infrastructure, given that natural gas is the single largest fuel source for California electricity generation.

The report focuses on key events and trends that affect near-term risks to ensuring an adequate supply electricity. The report also examines electricity demand, load management, and natural gas infrastructure developments. Although many market-design issues need to be resolved to improve competition and maintain system reliability, this report does not address market structure problems. The California Independent System Operator, Federal Energy Regulatory Commission, utility distribution companies and academic institutions are studying the various structural problems with California's market design.

The remainder of the "Executive Summary" provides an overview of recent developments and issues that are addressed in the report.

Background

Electricity and natural gas markets brought unexpected developments in 2000, resulting in exorbitant prices and serious reliability risks. These developments were due to two key problems: limited supplies of electricity and natural gas throughout the west and flaws in the design of the new market which allowed market participants to directly influence wholesale prices.

Although normal fluctuations in the natural gas market helped increase electricity generation costs, some allege that market manipulations increased electricity and natural gas costs beyond reasonable competitive levels. Whatever the causes, California's efforts to substitute competition for cost-based regulation in the generation sector of the electricity industry have fallen substantially short of expectations.

Electric utilities have already lost billions of dollars attempting to serve load, pushing the Nation's largest utility into bankruptcy. Consequently, the State committed billions of dollars

to purchase power to restore order to the electricity market. All of these costs may eventually be passed on to consumers, along with the risks that the energy markets may affect the California economy as a whole.

The transition to a workable competitive market is clearly in jeopardy and will require stronger government involvement to protect the interests of California citizens. To begin to address this need, the Governor has developed an Energy Plan, and numerous Legislative bills have now been proposed to stabilize the market volatility and moderate risks for this summer's and next year's peak load season. However, the crisis can only be resolved if both state and federal regulators take measures designed to return the markets to some semblance of normal operation.

Chapter 1 explains the purpose and background information on the different topics covered in the report. The following sections provide a synopsis of each chapter in the report.

California's Electricity System

Chapter 2 provides a general description of the bulk electricity system. This chapter describes the current generation system, how the system has developed over the years, and the trade relationship that the interconnected transmission grid creates with the rest of the western region. This chapter also compares California and United States energy trends to add perspective and discuses some of the myths and misconceptions of the market.

An understanding of the electricity resource characteristics and transmission network provides the basis for analyzing future needs and market developments. California is a regional power system that includes a diverse mix of natural gas, renewable, hydroelectric and nuclear generation resources. California imports between 20 to 30 percent of its electricity needs from eleven western states, and western Canada and Mexico. The interconnection of regional power systems throughout the west provides trade opportunities enhanced by the diversity of generation resources and regional differences in load patterns.

Energy Markets in Transition

Chapter 3 summarizes recent developments in the California electricity market. This chapter includes a general overview of the price volatility in the wholesale power market, the decline in system reliability, and retail price developments. This chapter sets the stage for understanding the current electricity problems.

Although problems were encountered from the beginning of industry restructuring, the market functioned without serious problems during its first two years of operation and market prices tracked expectations. However, California's electric system infrastructure and

the new market institutions developed significant problems in the summer of 2000, which continued and even worsened during the winter.

Electricity Supply Adequacy in California

Chapter 4 explores the uncertainty about whether the western region has adequate electricity generating capacity to serve California's needs. This chapter looks at recent electric generation supply trends and provides an outlook for the next several years. While several thousand megawatts of new power plant capacity are under construction in the state, even more are currently under review in the Energy Commission's siting process.

Electricity generation reserves have been consistently declining in California and the West since 1993. As the Independent System Operator's AB 1890 Section 350 report[1] and the Energy Commission's Heat Storm Study[2] note, California has faced increasing supply adequacy risks for several years. A decline in reserve capacity has made the State's electric system more vulnerable to market manipulations and disruptions due to unexpected events, such as higher than expected outages of generation facilities. During some of these events, the Independent System Operator directed utilities to curtail loads to maintain the overall reliability of the transmission grid. Most curtailments occurred during the winter months when load is significantly lower than summer peak demand periods.

New generation capacity and demand reduction measures that are needed to reverse this trend are currently under development. The outlook for meeting the 2001 peak demand is encouraging, especially with the mild weather California has enjoyed to date. The outlook for the next several years is optimistic.

Electricity Consumption Trends

Chapter 5 provides an overview of recent California demand trends and an outlook for the next decade. This chapter also provides an overview of recent trends in electricity demand growth by region and industry sectors, including the changes in electricity demand under normal and above average temperature conditions, since temperatures vary from year to year. A summary of the Commission's latest demand outlook is included, with an updated forecast expected at the end of the year.

California electricity peak demand continues to grow at about 2 percent per year on average. However, some regions are experiencing explosive growth, such as in the Silicon Valley

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[1] The *AB 1890 Section 350 Report* can be found on the ISO website at: [http://www.caiso.com/thegrid/operations/TRR/index.html] and *Task E, Assessment of Resource Supply* at: [http://www.caiso.com/thegrid/operations/TRR/taske7-14.pdf]

[2] *High Temperatures & Electricity Demand: An Assessment of Supply Adequacy in California, Trends and Outlook* can be found at:[http://www.energy.ca.gov/electricity/1999-07-23_HEAT_RPT.PDF]

region, causing unique local system problems. In addition, new residential development has shifted to the Central Valley region, increasing peak air conditioning loads that fluctuate with temperature conditions. As the population continues to grow, technological advances, energy-efficiency improvements, and increased competition in energy commodities are expected to moderate future energy demand increases.

Energy Efficiency Resource Opportunities

Chapter 6 summarizes current efficiency programs, including the past savings from efficiency improvements. Efficiency programs reduce the energy dependence of California's economy, make businesses more competitive, and allow consumers to save money and live more comfortably.

As an energy efficiency program, load-reduction opportunities are an important element in balancing supply requirements. Energy efficiency programs defer the need for new generation or transmission capacity, prevent environmental degradation, and help consumers control their utility bills. Since 1975, the displaced peak demand from past efficiency programs has been roughly the equivalent of eighteen 500-megawatt power plants.

Temporary programs are now being put in place to provide immediate relief in the summers of 2001 and 2002. Although these programs target demand reductions during the summer peak demand period, many programs will also produce year-round savings through improvements to lighting, water pumping, and heating and cooling system efficiency. There is also an observable change in consumer behavior due to recent high prices, the number of Independent System Operator emergency alerts, and extensive press coverage of the energy crisis.

Western Natural Gas Systems

Chapter 7 provides an overview of the natural gas production and delivery system. This chapter includes a general description of the natural gas pipeline system, the regions where proven reserves and potential resources are located, California production trends and a long-term supply outlook. To understand the mechanics of the natural gas market in California, it is essential to understand all of the market fundamentals.
The clean-burning characteristics of natural gas and its price have made it a premium fuel of choice in California, especially for power generation. However, gas produced in the state satisfies only about 15 percent of the statewide demand. The remainder is obtained from other western states, Alberta and British Columbia. A complex grid of pipelines transports natural gas from producing regions to California consuming regions.

Overall, adequate supplies of natural gas are expected to be available from these regions throughout the next decade. In today's competitive market environment, changes in supply, demand, or price in one region affects all other regions.

California Natural Gas Developments

Chapter 8 assesses the current and future natural gas market issues confronting California. This chapter includes an overview of consumption trends, supply adequacy concerns, pipeline constraints, and storage needs. Although natural gas supplies are expected to remain generally plentiful over the long term, market forces and regulatory events may cause significant short-term fluctuations in natural gas supplies and prices. California has already experienced fluctuations and price volatility during the past year.

Two issues are likely to affect the supplies of natural gas in California. First, infrastructure issues are likely to constrain natural gas supplies over the next year. Pipeline capacity and ability to refill natural gas storage facilities will be limited over the next year. These problems may limit the availability of fuel supplies to meet seasonal demands though 2001 and early 2002. Second, the natural gas and electricity markets are tied together, with natural gas being the fuel of choice. Natural gas consumption by power plants is volatile since electricity demand may fluctuate significantly depending on weather variations. Such uncertainties raise concerns about the future impact of supply adequacy on electricity markets.

Synopsis of the Technical Appendices

The following is a synopsis of the technical appendices of the report. The appendices include several study topics that are beyond the scope of the AB 970 reporting requirements.

Demand Responsiveness in Electricity Markets

Appendix A describes how demand responsiveness programs could give consumers and other end-users more control over their electricity consumption. This appendix provides a discussion about why consumers do not respond to real price fluctuations, a description on how demand responsiveness could work and an overview of activities currently underway to provide the right pricing signals to consumers.

Currently, consumers have little motivation to reduce consumption when prices to generate electricity are high and supplies are tight, threatening the reliability of the system. This problem arises because consumers do not directly experience the high prices during high demand periods, as consumer rates are fixed due to regulatory requirements. Moreover, consumers lack the means to respond even if they wanted to because they are not informed of

the hourly prices in the wholesale markets. Furthermore, consumers do not have the meters to measure their hourly consumption patterns.

Instead of a market where demand elasticity is governed by consumer preferences and technology costs, consumption behavior is moderated by legal requirements that fix rates. Changes that increase demand responsiveness require an explicit focus on the design of the retail market structure.

Wholesale Electricity Pricing in a Sustainable Market

Appendix B provides an overview of the different factors that affect wholesale electricity prices. This appendix illustrates the price levels that an ideal market would likely produce if California were to have a sustainable market. "Sustainable" means to have a structure that is fair to both buyers and sellers, encouraging continued market transactions.

Any market design must provide generators with enough revenue to maintain the operation of some of the existing infrastructure and attract additional investment as needed. Even if analysts can ascertain what would be a reasonable cost of generation, it is still extremely difficult to develop a market design that will send the appropriate price signals to generators for new development. The difficulty stems from the natural features of electricity as a commodity.

ATTACHMENT B

Tentative Agenda for September 21 Committee Workshop

Starts at 9 a.m., Hearing Room A

1. Committee Introduction/Goals (10 minutes)

2. Staff presentation on AB 970 Report (15 minutes)

3. Staff presentation on AB 970 Report section on 2002 –2004 outlook (15 minutes)

4. Public comment (30 minutes – 60 minutes)

5. Staff presentations on 2002-2012 study

6. Public comment
   - Summary comments or formal presentations
   - Item-by-item review. Bring back the staff lead and have them answer questions or lead discussion

7. Committee set due date for any further written comments (1 week?)

8. Discussion of desirable future work and Committee wrap-up

ATTACHMENT C

2002 – 2012 Electricity Outlook

In order to meet the Commission's ongoing analytic responsibilities, the Energy Commission staff is preparing an electricity system study. The study will focus on generation and demand decisions that could be made in the next two years. The study will examine the entire West, but will focus on trends and policy choices available within California. The results will be available within the timeframe needed to meet the Energy Commission's obligation to coordinate with the California Power Authority's development of its investment plan.

Our goal is to identify the potential generation and demand choices, alternatives, implications and proposed actions to balance the three-part goal of electricity system reliability, reasonable prices and environmental protection. These goals must be met in a sustainable fashion, which means keeping in mind the impact on both suppliers and consumers. We believe that the near-term outlook for supply adequacy is promising. This gives California breathing room to focus on targets of opportunity for meeting environmental, efficiency, and renewable resource investment goals.

Tentative Schedule for *2002 – 2012 Outlook*

September 7	Mail notice of workshop
September 21	Committee workshop on workplan
Mid-October	Workshop on review of demand forecast
Early November	Joint CEC/EPRI workshop on market design
November 20	Release draft staff report for public review
December 11	Committee workshop on draft staff report
Mid - January	Present revised report to full Commission at Business Meeting

Annotated Outline for ***2002 – 2012 Outlook***

EXECUTIVE SUMMARY

INTRODUCTION

PART I. – THE STARTING POINT

This section will describe the current supply-demand balance and near-term outlook. This would include a short description of what California achieved in 2001. Starting last winter with a potential summer peak deficit of 5,000 MW, a combination of generation, conservation, market redesign and fortunate weather has thus far averted system outages and stabilized prices.

PART II. SUPPLY – DEMAND SCENARIOS

II-1. Demand Scenarios

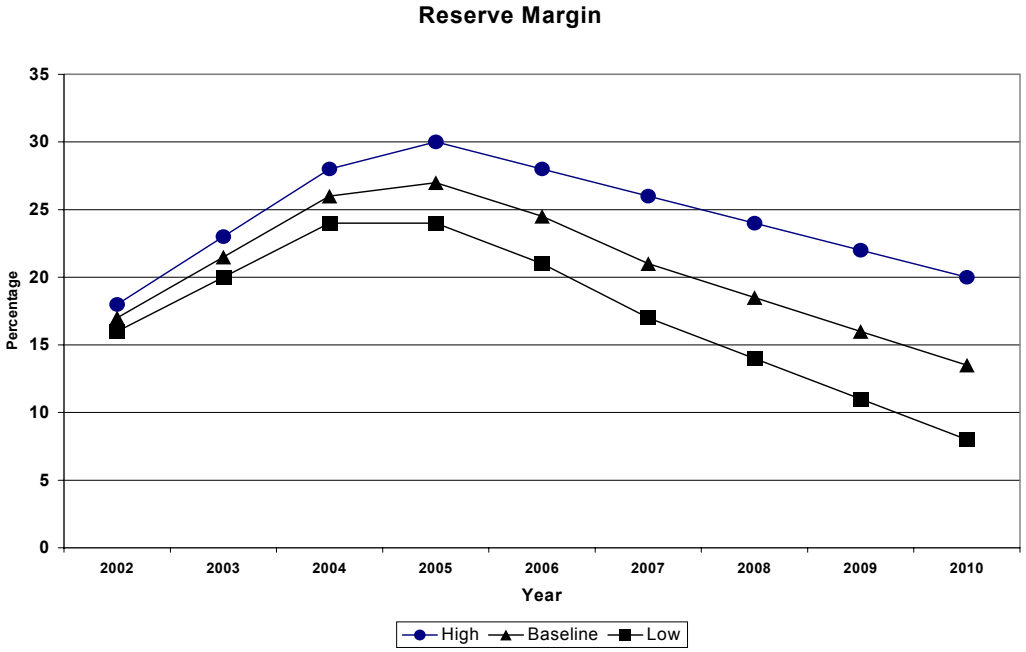
This section will summarize the major parameters of the baseline and high/low scenarios, change from last forecast, and key findings. It will be accompanied by detailed technical documentation under separate cover.

II-2. Energy Market System Simulations

The purpose of this study is to produce scenario-based projections of supply-demand balances and wholesale electricity prices for the period 2002 –2012 and summarize the results. The simulations will assess how key system attributes may change under integrated electricity and natural gas demand and supply scenarios covering a range of possible conditions over the next decade In addition to their value in informing policymakers regarding the possible range of market conditions which may prevail during the coming decade, the results will also serve as an input for: the retail electricity price forecast, the Plant Life Management study, an electric generation gas demand study in support of Gas Accords II, and unit-level generation estimates for use by air quality regulators.

A baseline case will use the baseline natural gas price and electricity demand scenarios. The "high" and "low" in-state demand series will then be used in conjunction with projections regarding resource additions to derive scenarios in which the state's capacity reserve margin is several percentage points higher and lower than in the base case. Different resource additions will be developed for each demand scenario, as the variation in demand alone will not yield the desired spread in reserve margins. The figure below illustrates hypothetical reserve margins paths that the three scenarios might represent.

Sensitivities of wholesale market prices to the natural gas price will then be run. Upon



completion of the demand growth and natural gas price scenarios, staff will determine whether the probability of the low reserve margin – high gas price case (and *vice versa*) warrants analysis. If their occurrence is held to be unlikely, gas price sensitivities will be run against the baseline. As changes in the price of natural gas are not expected to dramatically affect system-wide dispatch or reliability, it may be sufficient to confine this sensitivity analysis to the effect of the natural gas price on the wholesale electricity price.

The analysis will be carried out using Multisym™, the market simulation model licensed by the Commission and developed by Henwood Energy Services, Inc (HESI). Using unit-level data, this model simulates the WSCC-wide wholesale electricity market on an hourly basis.

II- 3. Probabilistic Assessment of Three Key Sensitivities: generation delays, increased outages, and variations in peak temperature

The System Assessment Model (SAM) will be used to perform a probabilistic risk assessment of system reliability with respect to three key uncertainties. SAM probabilistically examines the adequacy of generating reserves by control area during the peak demand hour. The model result is a frequency distribution derived from the many runs for key system attributes. The model is most useful when looking simultaneously at the effects of more than one key input variable, such

as temperature and forced outages. Its results will be useful in identifying an optimum reserve margin.

PART III. ISSUES ANALYSIS

III-1. Supply Adequacy and Reliability in California – How Much Reserve Capacity is Needed?

This chapter examines the relationship between adequate reserve margins needed for reliability, and market structure. Previous Energy Commission staff analysis found that a competitive market structure in which generators depend largely on revenue from an energy-only market provides generators an incentive to allow reserves levels to drop below that deemed necessary for reliable service. This effect is accomplished by either not building new generation, or withholding existing generation from the market. Assuming that generators bid their marginal operating cost during most hours, recovery of fixed costs in an energy-only market is limited to high-price, high-peak demand hours.

This chapter will examine several alternative market structures in order to assess whether and how supply adequacy and reliability can be secured in a sustainable fashion. Staff will be assisted by the Electric Power Research Institute, which will co-sponsor a workshop in which leading researchers present their findings.

A key question in California's reformulated market is the mid-term role of the state, especially given the mid-term impact of existing Department of Water Resources contracts. The newly created California Consumer Power and Conservation Financing Authority has proposed fulfilling the role of provider of last resort by adding generation to ensure reliability and mitigate price volatility. The influence of the Power Authority's presence in the market could affect private investment in new generation unless steps are taken to ensure that generators who do not have long-term contracts can recover their fixed capital costs. There are several different market models which might be used to inform the design and size of state investment in energy infrastructure. For example, as an alternative to State-owned generation, the chapter will examine the use of reliability indexed capacity payments as one option to limit price volatility and provide for the timely addition of new generation.

III-2. Plant life management/retirements

This chapter will address whether there are units that the state would like to see retired or retrofitted for environmental reasons and strategies to accomplish this within a market setting. This study will examine the social and private costs and benefits of retiring or retrofitting selected fossil-fired generation in California. CEC staff will conduct a screening analysis to identify generating units that are potential candidates for their owners to shut down or for the State to offer incentives to shut down for environmental or other social benefits in 2002 through 2004. Staff will discuss this list with stakeholders (ISO, owners, regulators, public interest groups). Staff will identify units where interests are aligned and no action may be needed to accomplish an eventual shutdown. Where interests are not aligned, staff will identify actions and mechanisms that could realign interests and accomplish shutdown or other mitigation.

III-3. Retail Electricity Price Outlook

This analysis will present a retail electricity price outlook for the period 2002-2012. The outlook will include annual average retail electricity prices for typical residential, small commercial, medium commercial, industrial and agricultural customers of PG&E, Edison, SDG&E, LADWP, SMUD, Burbank, Pasadena, and Glendale.

Staff will update its spreadsheet model and assumptions. In addition, the staff will incorporate the latest electricity demand forecast, CPUC decisions and tariff changes, implication of legislative decisions (such as Edison's transmission agreement with the State) and municipal utility updates to the model.

This section of the report is a forecast used to feed policy studies. The Commission's Demand Analysis Office uses the retail price outlook results to forecast electricity demand. The Nonresidential Buildings and the Residential and Appliances Offices also use the results to design building standards and determine the cost effectiveness of those programs. The Renewables Energy and the PIER programs also use the results to establish costs effectiveness of projects. The Department of Finance uses the retail electricity outlook to establish electricity budgets for other agencies. The Energy Office of the Department of General Services uses the results to determine the cost effectiveness of projects for State buildings. Numerous companies also call and request copies of the retail electricity outlook to complement energy investment decisions.

III-4. Development of Demand Responsive Loads or Combustion Turbine Peakers

California faces a major “fork in the road” in whether it uses a fleet of combustion turbines or expanded demand responsive loads to ensure a balance between supply and demand. There may be substantial monetary, environmental and system performance differences between these two approaches to ensure California’s electricity system remains reliable.

Real-time price (RTP) tariffs and dispatchable load curtailment programs enable end-users to respond to market prices or adverse system conditions reducing loads, respectively. Customers on RTP either save money by reducing consumption in high priced periods or shifting loads from high to lower price periods. Customers on load curtailment programs respond to incentives to reduce loads when system conditions trigger program operation. Both forms of demand responsiveness reduce loads when market prices and/or system conditions warrant this action.

This analysis will assess the potential contribution of demand response loads and the relative risks of incorporating demand responsive behavior as an integral element of California’s sustainable electricity market design.

III-5. Effects of Renewable Generation Initiatives

This analysis will explore the potential electric generation system consequences of state and other initiatives promoting renewables generation development. Generation system simulations will be used to assess the potential system effects of additional renewables initiatives (e.g., a Renewable Portfolio Standard) compared to currently existing or committed renewable development initiatives. Attributes that might be measured include displacement or replacement of generation and emissions from existing generating resources, avoidance of fossil-fired new resources, conservation of natural gas, effect on spot market, and effects on generation system emissions.

III – 6. Siting Issues

This chapter will address the status of the siting process and will include a discussion of the accomplishments since deregulation and the expectations for future projects. The results of licensing will include the 21-day emergency, 4-month and 6-month expedited and standard 12-month processes as well as the results of local agency permitting. Efforts and results of legislation and new and revised regulations will be presented.

The chapter will also include results of the Siting Constraints hearings that were held on air quality, water resources, land use, biological resources and electric transmission issues and include proposed issue resolution efforts.

PART IV. IMPLICATIONS AND ACTION RECOMMENDATIONS